## Low $V_{CE(SAT)}$ PNP Epitaxial Planar Transistor

# BTA1300A3

## Description

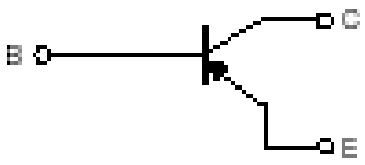
The BTA1300A3 is designed especially for use in strobo flash and medium power amplifier applications.

## Features

- High DC current gain and excellent hFE linearity.
  HFE(1)=140—600(VCE=-1V,IC=-0.5A)
  HFE(2)=60(min), 120(typ.)(VCE=-1V,IC=-4A)
- Low Saturation Voltage
  VCE(sat)=-0.5V(max)(IC=-2A,IB=-50mA).

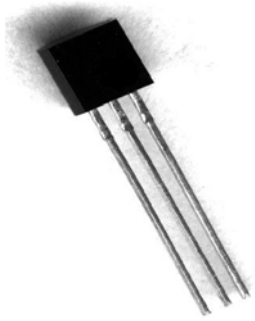
## Symbol

BTA1300A3




B：Base
C：Collector
E：Emitter

TO-92



## Absolute Maximum Ratings (Ta=25°C)

| Parameter | Symbol | Limits | Unit |
|---|---|---|---|
| Collector-Base Voltage | VCBO | -20 | V |
| Collector-Emitter Voltage | VCES | -20 | V |
| Collector-Emitter Voltage | VCEO | -10 | V |
| Emitter-Base Voltage | VEBO | -6 | V |
| Collector Current(DC) | IC | -2 | A |
| Collector Current(Pulsed)(Note 1) | ICP | -5 | |
| Power Dissipation | Pd | 750 | mW |
| Junction Temperature | Tj | 150 | °C |
| Storage Temperature | Tstg | -55~+150 | °C |

Note 1: Single pulse, Pw≤10ms,Duty Cycle≤30%.

## Characteristics (Ta=25°C)

| Symbol | Min. | Typ. | Max. | Unit | Test Conditions |
|---|---|---|---|---|---|
| BVCBO | -20 | - | - | V | IC=-50uA |
| BVCEO | -10 | - | - | V | IC=-10mA |
| BVEBO | -6 | - | - | V | IE=-1mA |
| ICBO | - | - | -0.1 | uA | VCB=-20V |
| IEBO | - | - | -0.1 | uA | VEB=-6V |
| *VCE(sat) | - | - | -0.5 | V | IC=-2A, IB=-50mA |
| *VBE(on) | - | - | -1.5 | V | VCE=-1V, IC=-2A |
| *hFE 1 | 140 | - | 600 | - | VCE=-1V, IC=-500mA |
| *hFE 2 | 60 | 120 | - | | VCE=-1V, IC=-4A |
| fT | - | 140 | - | MHz | VCE=-1V, IE=500mA, f=100MHz |
| Cob | - | 50 | - | pF | VCB=-10V, IE=0A,f=1MHz |

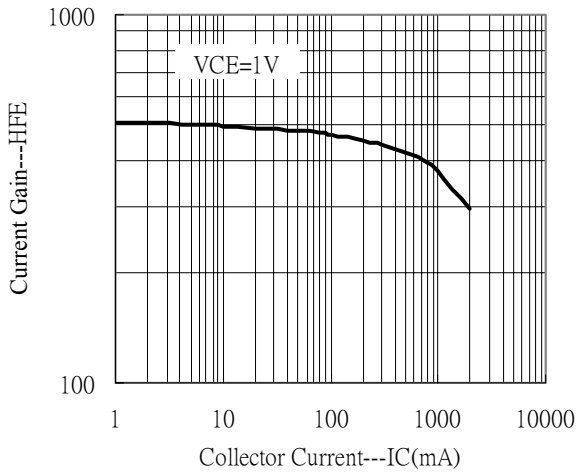
*Pulse Test: Pulse Width ≤380us, Duty Cycle≤2%

## Classification Of hFE

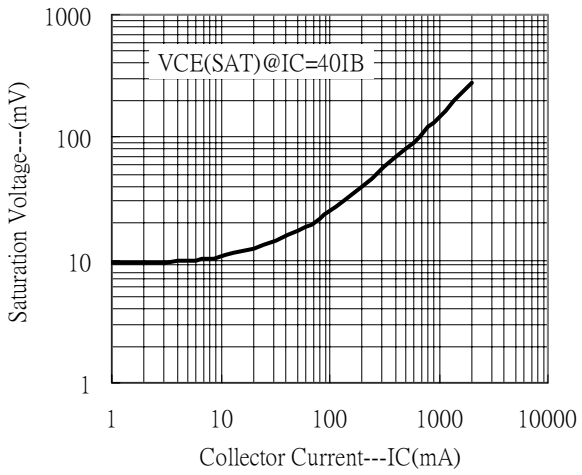
| Rank | Y | GR | BL |
|---|---|---|---|
| Range | 140~280 | 200~400 | 300~600 |

## Characteristic Curves

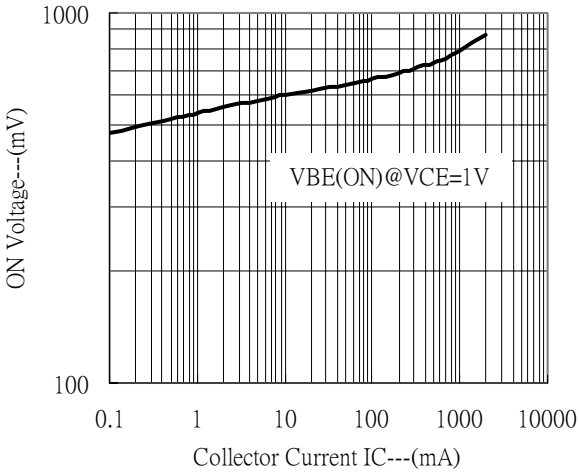
Current Gain vs Collector Current



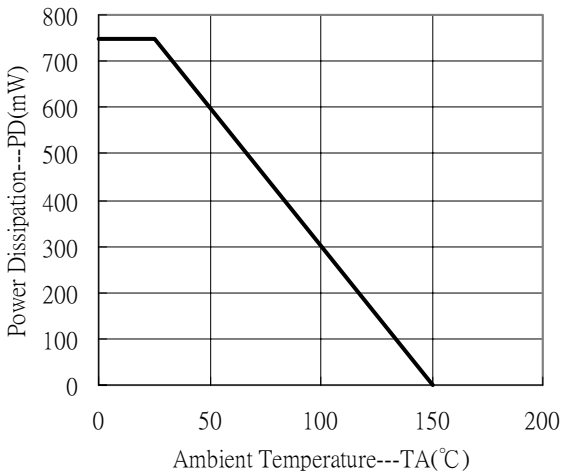

Saturation Voltage vs Collector Current



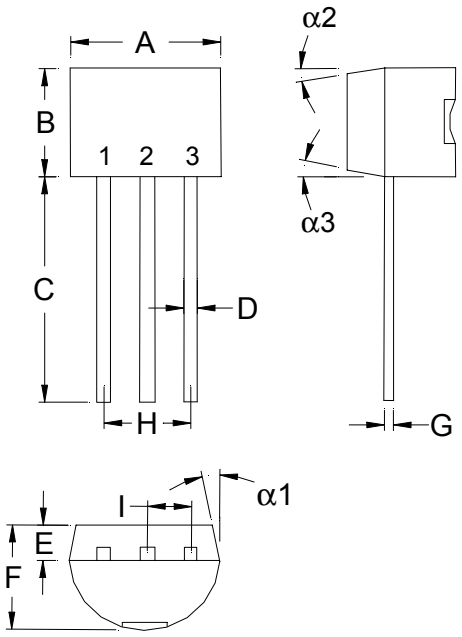

ON Voltage vs Collector Current



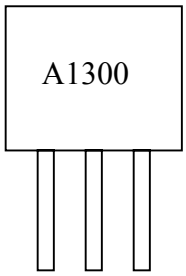

Power Derating Curve



## TO-92 Dimension




Marking:




Style: Pin 1.Emitter 2.Collector 3.Base

3-Lead TO-92 Plastic Package
CYStek Package Code: A3

*: Typical

| DIM | Inches | | Millimeters | | DIM | Inches | | Millimeters | |
|---|---|---|---|---|---|---|---|---|---|
| | Min. | Max. | Min. | Max. | | Min. | Max. | Min. | Max. |
| A | 0.1704 | 0.1902 | 4.33 | 4.83 | G | 0.0142 | 0.0220 | 0.36 | 0.56 |
| B | 0.1704 | 0.1902 | 4.33 | 4.83 | H | - | *0.1000 | - | *2.54 |
| C | 0.5000 | - | 12.70 | - | I | - | *0.0500 | - | *1.27 |
| D | 0.0142 | 0.0220 | 0.36 | 0.56 | α1 | - | *5° | - | *5° |
| E | - | *0.0500 | - | *1.27 | α2 | - | *2° | - | *2° |
| F | 0.1323 | 0.1480 | 3.36 | 3.76 | α3 | - | *2° | - | *2° |

Notes: 1.Controlling dimension: millimeters.
2.Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material.
3.If there is any question with packing specification or packing method, please contact your local CYStek sales office.

Material:

- Lead: 42 Alloy ; solder plating
- Mold Compound: Epoxy resin family, flammability solid burning class: UL94V-0